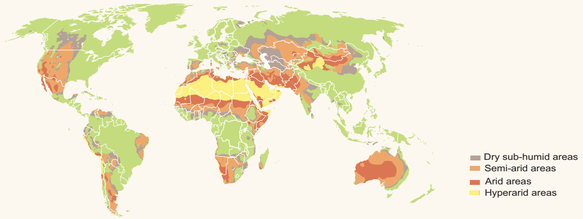
Facts and figures

Distribution of global drylands



Drylands …

… are home to nearly one in three people in the world today – 90 percent of them in developing countries.
… support 50 percent of the world's livestock and account for nearly half of all farmland.
… store over 45 percent of the planet's carbon inventory.
… comprise 44 percent of all cultivated land.

Desertification

Desertification generally refers to land degradation in arid, semi-arid, and sub-humid areas. The term was coined to capture the urgency of pressing and interconnected issues in drylands.

Land degradation

Land degradation means the reduction or loss of the biological or economic productivity and complexity of rain-fed cropland, irrigated cropland, rangeland, pastureland, forest, or woodlands as a result of land use or various processes, including those arising from human activities and habitation patterns, such as:
- soil erosion caused by wind and/or water
- deterioration of the physical, chemical, biological, or economic properties of soil
- long-term loss of natural vegetation

Causes

Underlying land degradation are disturbances of the biological cycles of life, as well as social and development issues. Overgrazing, overuse of land, deforestation, wind and water erosion, excessive use of chemical fertilizers, and inappropriate irrigation are just some of the causes of land degradation. They are aggravated by the impacts of human-induced climate change and natural climate variability.

Extent

- From 1981 to 2003, 24 percent of the world's land was degraded.
- Rangeland accounts for 20 to 25 percent of degrading land.
- Cropland accounts for 20 percent of degrading land.
- Each year, an estimated 24 billion tons of soil are eroded.
- 12 million hectares of land desertify every year – three times the size of Switzerland.

Economic losses

- The estimated economic losses of land degradation equal about USD 42 billion each year.
- Over the next 25 years, land degradation may reduce global food production by as much as 12 percent, resulting in a possible 30 percent increase in world food prices.[1]

Social consequences

- 110 countries and 1.5 billion people are affected by land degradation worldwide.
- Nearly half of the world's poor (42%) live in degraded areas.
- 50 million people are at risk of displacement in the next ten years.

World Day to Combat Desertification

In 1995, the United Nations designated 17 June as the World Day to Combat Desertification in order to raise awareness of the threats and consequences of desertification and drought.

If not otherwise stated, facts and figures refer to sources from UNCCD.
[1] Pender, J. 2009. *The World Food Crisis, Land Degradation and Sustainable Land Management: Linkages, Opportunities and Constraints.* Eschborn, Germany: GTZ and TerrAfrica, p. 4.
Dryland map data source: UNEP World Conservation Monitoring Centre

UNCCD, WOCAT, and SDC

"The difference between a garden and a desert isn't water – it's human beings."
(Touareg proverb)

UNCCD – United Nations Convention to Combat Desertification

At the 1992 Rio Earth Summit, desertification, climate change, and loss of biodiversity were identified as the greatest challenges to sustainable development. Established in 1994, UNCCD is the sole legally binding international agreement that links together the environment, development, and promotion of healthy soils. The Convention's 195 signatories work to alleviate poverty in drylands, to maintain and restore land's productivity, and to mitigate the effects of drought.

The Convention has become a cornerstone agreement in the battle for sustainable development, consistent with Agenda 21. It unites developed and developing countries on behalf of global action to combat desertification, and includes specific national commitments to concrete measures.

WOCAT – World Overview of Conservation Approaches and Technologies

WOCAT collects, evaluates, and documents globally applied technologies and approaches related to sustainable land management, especially those used in areas affected by drought and desertification. The resulting documentation is made available to organizations and affected individuals concerned with specific land use problems.

In early 2014, UNCCD and the University of Bern's Centre for Development and Environment (CDE) signed a cooperation agreement that officially recognizes WOCAT as the global platform for best practices of sustainable land management. This accreditation gives WOCAT a mandate to support the 195 signatory countries in documenting best practices.

Schweizerische Eidgenossenschaft
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Confederaziun svizra

Swiss Agency for Development and Cooperation SDC

SDC – Swiss Agency for Development and Cooperation

SDC oversees the implementation of UNCCD in Switzerland and supports regional and global interventions in the field of international development. SDC provides approximately CHF 50 million per year in funding to over 70 development projects and programmes targeting challenges specific to arid regions. Numerous projects are designed to preserve water and fertile land by means of sustainable agriculture and forest management. This typically means supporting local actors in learning how to use scarce resources very economically.

SDC is also engaged in programmes aiming at tackling climate change, conserving biodiversity, and managing water scarcity – all of which relate, in turn, to land degradation and desertification.
https://www.eda.admin.ch/deza/en/home/themes-sdc/agriculture-food-security/desertifikation2.html

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Swiss Agency for Development and Cooperation SDC

Fighting desertification, supporting healthy and productive land

Opportunities for greener land – time to act


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Desertification – or land degradation in the drylands – is a process in which fertile soils gradually lose their productive functions. It eventually renders land infertile and unusable.

Approximately 33 percent of the world's farmland is already degraded. Land degradation is a global challenge, endangering the environment and human livelihoods.

Because it upsets the ecological functions of the land, land degradation has serious consequences for biodiversity, natural disaster risks, climate change, and water availability. Land degradation often threatens the most vulnerable people and can be a root cause of poverty and migration.

Challenges for food security

If managed well, drylands are fertile and capable of supporting the habitats, crops, and livestock that nourish human beings. Such areas currently sustain nearly one-third of humanity. However, food production in drylands overwhelmingly relies on highly fragile agro-ecological systems in which small disturbances can lead to land degradation, soil infertility, diminished food production, and reductions in land's natural resilience. This threatens food security.

Project example

The New Seed Initiative for Maize in Southern Africa (NSIMA) investigates varieties of maize that are resilient to drought in an effort to improve food security in countries of southern Africa. Even in cases of low soil fertility these new seed varieties can produce higher yields than conventional ones, thus contributing to food security. Supported by the Swiss Agency for Development and Cooperation (SDC), the project is collaboratively conducted with state and private actors in the maize sector, in particular those who support the production and trade of seeds on behalf of small producers.


South Africa / Joseph King


Tanzania / Susanne Wymann

Coping with climate change

Dryland soils contain over a quarter of the stored organic carbon in the world. But climate change is causing more frequent and more intense events of extreme weather, such as droughts and heavy rains, which contribute to soil erosion and desertification. At the same time, desertification accelerates climate change by reducing carbon sequestration in the soil and burning of biomass. Human influence on desertification is equally important: excessive use of firewood for cooking and lighting in drylands, for example, is one of the main causes of desertification.

Project example

SDC supports a project in Tanzania that aims to develop a sustainable production chain for charcoal, which provides rural populations with income while protecting resources. The project seeks to help Tanzania's charcoal sector become more environmentally friendly and socially responsible through targeted interventions. This means both supporting private actors and addressing state-level policies.

Water budgeting

Desertification, land degradation, and drought have negative impacts on the availability, quantity, and quality of water resources in drylands. The direct physical effects of land degradation include increased frequency of drought and sandstorms, and increased frequency of flooding due to inadequate drainage or poor irrigation practices.

Project example

SDC supports the Watershed Organisation Trust project in semi-arid areas of the states of Andhra Pradesh, Madhya Pradesh, and Maharashtra, India. The project aims to generate new water-management knowledge that enhances the adaptive capacities of vulnerable communities and local institutions. Water-budgeting exercises help communities visualize and plan their crops based on their existing needs and water availability. Thanks to these efforts, the cropping season has been extended and yields have increased by 30 to 80 percent in project sites, while costs have been reduced by 20 to 40 percent.


India / Urs Wiesmann

A global issue – that concerns us all!

"The top 20 centimetres of soil is all that stands between us and extinction."

(Luc Gnacadja – Executive Secretary of UNCCD 2007–2013)

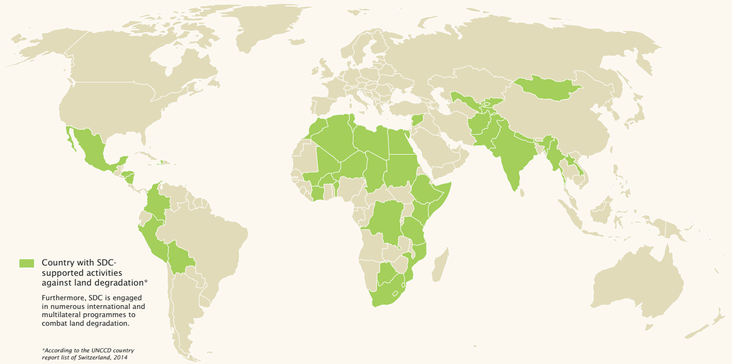

Christoph Studer


Christoph Studer


Hanspeter Liniger

Changes can make a difference

There are solutions for restoring soil fertility, combating wind and water erosion, accelerating reforestation, and fostering sustainable agriculture. Making gradual changes away from intensive monocultures and towards greater biodiversity gives depleted soils a chance to recover. It also gives vulnerable populations a chance for a brighter economic and social future. In this process, there is much to be relearned from traditional societies who have managed to thrive in challenging environments by developing sustainable socio-economic systems and practices over centuries.



Preventing conflicts and displacement


Ethiopia / Zerihun Sewunet, IRI

Land degradation diminishes resources and increases the likelihood of human conflicts. This, in turn, can trigger waves of migration with grave humanitarian implications. Long-term refugees can further strain the environment and cause additional social and political tensions in other regions.

Swiss engagement

In response to drought-related emergency needs in the Horn of Africa between 2009 and 2011, food-for-work activities were implemented with the support of SDC, HEKS, and the Oromo Self-Help Organization (OSHO). Bush clearing, pond rehabilitation, and other activities were carried out based on community-defined priorities. Once bushes were cleared, for example, the beneficiaries fenced off specific pasture areas or degraded land for regeneration. People also cleared out traditional water wells that had been flooded during the rainy season, and engaged in soil bund construction. These achievements improved target communities' drought preparedness and strengthened their capacity and sense of ownership of solutions.

Preserving rangelands

Traditional systems of land use such as pastoralism have been developed over centuries by inhabitants of dryland areas. Flexible seasonal grazing systems gave nature a chance to regenerate. But population growth, agricultural expansion, and increasing restrictions on pastoral mobility have disrupted this delicate ecological balance in many places. Overgrazing is one of many causes of desertification.

Project example

SDC works for the protection of grasslands in Mongolia, including support for herder communities. Community units, or so-called Pasture User Groups (PUGs), consist of herders who are granted user rights to grasslands by local authorities. The PUGs develop pasture management plans and use pastures according to a rotating cycle. Within the Green Gold Project, 700 PUGs have been supported; this corresponds to over 40,000 herder households.


Mongolia / Juerg Krauer

Gender and desertification


Burkina Faso / Christoph Studer

In drylands, women are often the primary natural resource managers, providers of food security, and repositories of knowledge and expertise on indigenous plants, medicines, food, and water. Because their role in production is often confined to subsistence agriculture, women tend to be more vulnerable to the environmental and economic impacts of land degradation. As key players in both agricultural and pastoral production, their role in dealing with diminishing soil fertility and crop failure in degraded and drought-prone areas is crucial.

Desertification is not gender-neutral – it often impacts women disproportionately, since they are often expected to fetch water and to collect fuelwood from increasingly remote areas.

Gender is a cross-cutting issue in many desertification projects – for instance in WOTR (India), FNAM (Mali), Engaging Stakeholders in Environmental Conservation (Mongolia), and many others.